

SECTION 9
PROGRESS MEETING



POP STATUS REPORT

NOVEMBER 9, 2001

JIP TASKS

- 1. FIELD TESTING OF OUT-OF-SERVICE PIPELINES TO FAILURE**
- 2. UTILIZATION & VALIDATION OF ANALYTICAL ASSESSMENT MODELS**
- 3. TESTING & VALIDATING THE PERFORMANCE OF SMART PIGS TO DETERMINE PIPELINE CONDITION**

JIP VALUE

**GENERATE “REAL” TEST DATA
FROM OFFSHORE PIPELINES THAT
HAVE EXPERIENCED “REAL” IN-
SERVICE DEFECTS (INTERNAL
CORROSION, EXTERNAL
CORROSION, WELDING DEFECTS,
MECHANICAL DAMAGE, ETC) NOT
MANUFACTURED DEFECTS.**

WHERE ARE WE TODAY

- **\$500,000 FUNDING REQUESTED**
- **\$460,000 FUNDING COMMITTED**
- **SUCCESSFUL TEST 6/11/01**
- **PIPELINE FAILED AT 6,793 PSI**
- **12 DAYS IN FIELD VS 5 DAYS**
- **\$240,000 SPENT OFFSHORE**
- **\$180,000 SPENT ONSHORE**
- **VALUABLE ASSESSMENT RESULTS**
- **BENCH TESTING OF 6 SECTIONS**
- **\$75,000 REQUIRED TO COMPLETE**

EQUIPMENT SPREADS



EQUIPMENT SPREADS

CONTRACTOR	TASK	DAY RATE
TOP COAT	LABOR CREW	\$5,740
S&J DIVERS	DIVING SERVICES	\$9,100
GLOBAL	LIFTBOAT	\$5,100
WORKBOAT	TRANSPORTATION	\$3,750
BOXES AND HOSES	HOOKUP EQUIP	\$500
WINMAR	SITE COORDINATION	\$1,000
BJ SERVICES	HYDROTESTING	\$2,780
ISOPLEX	HYDROTEST PUMP	\$1,900
ROSEN	SMART PIGGING	\$0
DOCK CHARGES	OFFLOADING	\$250
TRANSPORTATION	TRUCKING EQUIP	\$300
TOTALS		\$30,420

CHRONOLOGICAL

DAY	DATE	POP TESTING	PLATFORM DECOMMISSIONING
1	05/31/01	MOBILIZE WORKBOAT, INSTALL RECEIVER AT "A"	LIFTBOAT ATTEMPTED MOB, DELAY FOR BAD WEATHER
2	06/01/01	REMOB. LIFTBOAT,ARRIVE ON SITE , OFFLOAD PERSONEL AND EQUIPMENT	TRAVEL AND SET UP
3	06/02/01	INSTALLED PIG LAUNCHER AND RECEIVER. TESTED PUMP, PUMP FAILED, PUSHED FIRST PIG W/ BOAT	PLATFORM PREPARATION
4	06/03/01	PUSHED SECOND PIG, PUSHED SIZING PIG. REPLACEMENT PUMP ARRIVES	PLATFORM PREPARATION
5	06/04/01	RAN SMART PIG, FAILED TO GET DATA FOR COMPLETE P/L, INCR BAD WEATHER	NO WORK
6	06/05/01	EVACUATE FOR ALLISON	LIFTBOAT STANDBY
7	06/06/01	SHUTDOWN FOR ALLISON	LIFTBOAT STANDBY
8	06/07/01	RETURN, REPAIR SMART PIG AND RERUN	REMOB CREW
9	06/08/01	RETRIEVE SMART PIG, START PRESSURE TEST	PLATFORM PREPARATION
10	06/09/01	PRESSURE PUMP PROBLEMS, FLANGE FOUND TO BE LEAKING, INITIAL FAILURE AT "B" RISER FLANGE,	NO WORK
11	06/10/01	INSTALLED WELD CAP AT "A", CUT RISER AT "B", FAILED ATTEMPT TO RETRIEVE P/L W/LIFTBOAT	CUT TUBE TURN AT "B"
12	06/11/01	REPOSITIONED LIFTBOAT, RETRIEVED P/L END, INSTALLED WELD CAP, PRESSURIZED TO FAILURE	PLATFORM PREPARATION AND SCRAPPING
13	06/12/01	LOCATED FAILURE, BUOY, ATTEMPT RECOVERY, FAILED, DIVERS TO DOCK FOR EQUIP REPAIRS	P/L DECOMMISSIONING AT "B"
14	06/13/01	RETRIEVE FAILED SUBSEA SECTION OF PIPE	PLATFORM PREPARATION
15	06/14/01	COMPLETE	PLATFORM PREPARATION AND SCRAPPING TILL 6/20/01

FAILED FLANGE



FAILED PIPE SECTION



ASSESSMENT PROCESS

- **SUCCESSFUL TEST OF LINE 25 ON 06/11/01**
- **RISER FLANGE LEAKED AT 5,000 PSI,**
- **PIPELINE BURST SUBSEA AT 6,793 PSI**
- **SMART PIG INSPECTION DATA BY ROSEN**
- **MATERIAL TESTING AND CHARACTERIZATION BY STRESS**
- **ANALYTICAL ASSESSMENT BY UCB**

DAILY FIELD COSTS

DAY	DATE	ACTIVITY	BUD	ACT	BUDGET	ACTUAL	DIFF
1	06/02/01	Install receiver at Platform "A"	8	14	\$13,500	\$13,000	-\$500
2	06/02/01	Install Launcher at Platform "B"	4	9	\$7,500	\$10,000	\$2,500
3	06/02/01	Flush pipeline with foam pig	0	12	\$0	\$2,000	\$2,000
4	06/03/01	Run Cleaning pigs and gauge pig	2	14	\$3,000	\$20,000	\$17,000
5	06/04/01	Magnets, run cleaning pigs, smart pig	2	14	\$3,000	\$24,000	\$21,000
6	06/05/01	Standby for weather, evacuate	0	12	\$0	\$6,000	\$6,000
7	06/06/01	Standby for weather onshore	0	8	\$0	\$6,000	\$6,000
8	06/07/01	Repair and re-run smart pig	0	10	\$0	\$12,000	\$12,000
9	06/08/01	Retrieve Smart pig, prepare to test	8	10.5	\$13,400	\$18,000	\$4,600
10	06/09/01	Pressure test, flange leak, pump down	6	21	\$10,000	\$25,000	\$15,000
11	06/10/01	Install weld cap at "A", cut riser at "B"	6	12	\$10,000	\$23,000	\$13,000
12	06/11/01	Install weld cap at "B", pressure P/L	6	24	\$10,000	\$14,000	\$4,000
13	06/12/01	Locate leak, jet divers pumps down	6	14	\$10,000	\$14,000	\$4,000
14	06/13/01	Pick up failed section,	9	13.5	\$15,100	\$16,000	\$900
15	06/14/01	Finish sandbagging failure, demobe	0	12	\$0	\$12,000	\$12,000
		Onshore fabrication & test flanges, etc.			\$2,000	\$13,000	\$11,000
		Transportation & dock charges			\$0	\$12,000	\$12,000
	TOTAL		57	200	\$97,500	\$240,000	\$142,500

TOTAL FIELD COSTS

CONTRACTOR	TASK	BUDGET	ACTUAL	DIFF
TOP COAT	LABOR CREW	\$22,000	\$51,576	\$29,576
S&J DIVERS	DIVING SERVICES	\$35,000	\$71,615	\$36,615
GLOBAL	LIFTBOAT	\$11,500	\$35,999	\$24,499
WORKBOAT	TRANSPORTATION	\$12,000	\$17,950	\$5,950
BOXES AND HOSES	HOOKUP EQUIP	\$0	\$1,300	\$1,300
WINMAR	SITE COORDINATION	\$8,500	\$18,000	\$9,500
BJ SERVICES	HYDROTESTING	\$6,470	\$39,420	\$32,950
ISOPLEX	HYDROTEST PUMP	\$0	\$0	\$0
ROSEN	SMART PIGGING	\$0	\$0	\$0
DOCK CHARGES	OFFLOADING	\$0	\$6,750	\$6,750
TRANSPORTATION	TRUCKING EQUIP	\$0	\$757	\$757
TOTALS		\$95,470	\$243,367	\$147,897
HOURS		57	200	143
COST/HOUR		\$1,674.91	\$1,216.84	

JIP BUDGET

- **REQUESTED FUNDING** **\$500,000**
- **FUNDING RECEIVED** **\$460,000**
- **SHORTFALL** **\$40,000**

FUNDING SOURCES

• SHELL	\$30,000
• ROSEN	\$50,000+
• ABS	\$20,000+
• CSLC	\$30,000
• CNR	\$20,000
• MMS/DOT	\$250,000
• NUEVO	\$30,000
• CHEVRON	\$30,000

JIP EXPENDITURES

• ONSHORE	\$180,000
• OFFSHORE	\$240,000
• SUBTOTAL	\$420,000
• FUNDING	\$460,000
• BALANCE	\$ 40,000

BENCH TESTING

• WINMAR	\$15,000
• UCB	\$25,000
• STRESS	\$30,000
• MISC/CONT	\$5,000
– TOTAL	\$75,000
– LESS BALANCE	<\$40,000>
– SHORTFALL	\$35,000

PROJECT IMPACTS

- **WEATHER DOWNTIME W/ALLISON**
- **INEFFICINCIES DUE TO BAD WEATHER**
- **SMART PIG FAILURE**
- **EQUIPMENT PROBLEMS W/PUMPS**
- **PIPELINE ORIENTATION AT “A”**
- **PIPELINE RISER SLEEVE**

LESSONS LEARNED

- **SPARES LIST & STRATEGY FOR CONTRACTORS**
- **COMPREHENSIVE INSPECTION METRICS (OD, WT)**
- **FIELD CORDINATOR ON EACH VESSEL**
- **DOCK TEST PUMPS**
- **DOVE TAILING PROJECTS SAVE \$**
- **DAY RATES ARE FUNCTION OF EQUIPMENT AVAILABILITY**

IDEAL PROJECT DURATION

• DAYS TO RUN SMART PIG	6		
– RERUN SMART PIG		-1	
– CLEANING/PUMP PROBLEMS		-1	
– WEATHER & RESETUP		-1	
– REVISED TOTAL			3
• DAYS TO BURST	4		
– PUMP PROBLEMS		-1	
– FLANGE LEAK		-1	
– WEATHER & JACKUP POSITION		-1	
– REVISED TOTAL			1
• DAYS RETRIEVAL	2		
– DIVER INEFFICIENCIES		-1	
– REVISED TOTAL			1
• TOTALS	12	VS	5

EQUIPMENT SPREADS

CONTRACTOR	TASK	DAY RATE
TOP COAT	LABOR CREW	\$5,740
DIVERS	DIVING SERVICES	\$0
GLOBAL	LIFTBOAT	\$0
WORKBOAT	TRANSPORTATION	\$3,750
BOXES AND HOSES	HOOKUP EQUIP	\$500
WINMAR	SITE COORDINATION	\$1,000
BJ SERVICES	HYDROTESTING	\$1,500
ISOPLEX	HYDROTEST PUMP	\$1,000
ROSEN	SMART PIGGING	\$0
DOCK CHARGES	OFFLOADING	\$250
TRANSPORTATION	TRUCKING EQUIP	\$300
TOTALS		\$14,040